


1 WHAT IS CLAIMED IS:

- 2 1. A cloned gene encoding the expression of an antigenic mutant
3 pertussis toxin with substantially reduced enzymatic
4 activity.
5 2. An antigenic mutant pertussis toxin having substantially
6 reduced enzymatic activity.
7 3. The mutant toxin of claim 2 having a single amino acid
8 substitution comprising replacing arginine with lysine at
9 position 9 of S1 subunit.
10 4. A composition comprising immunogenic amount of the toxin of
11 claim 2 in a pharmaceutically acceptable carrier.
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